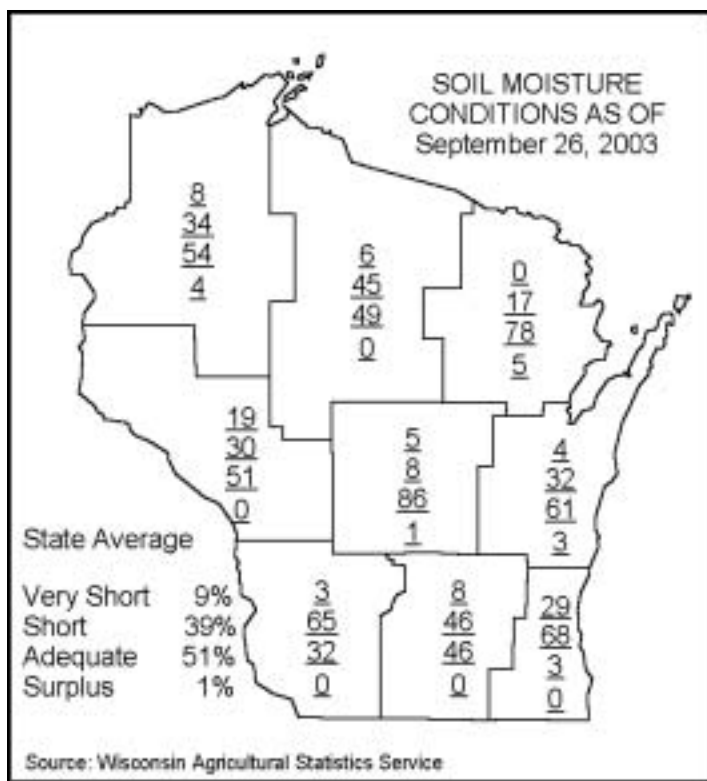




Weather and Pests

Recent weather conditions have been increasingly autumn-like, with widespread frost across the state. Cloudy skies, light rainfall and below-normal temperatures prevailed this week. Corn harvest is nearly complete, while soybean harvest is well underway. Reports indicate that this season's crop yields, especially soybeans, are substandard due to the late-summer drought. Apples, pumpkins and squash stands are familiar fall sights along roadsides, as are woolly bear caterpillars, especially on roads. A few observations of another common insect, the white-marked tussock moth, have been reported, signaling that fall has arrived.

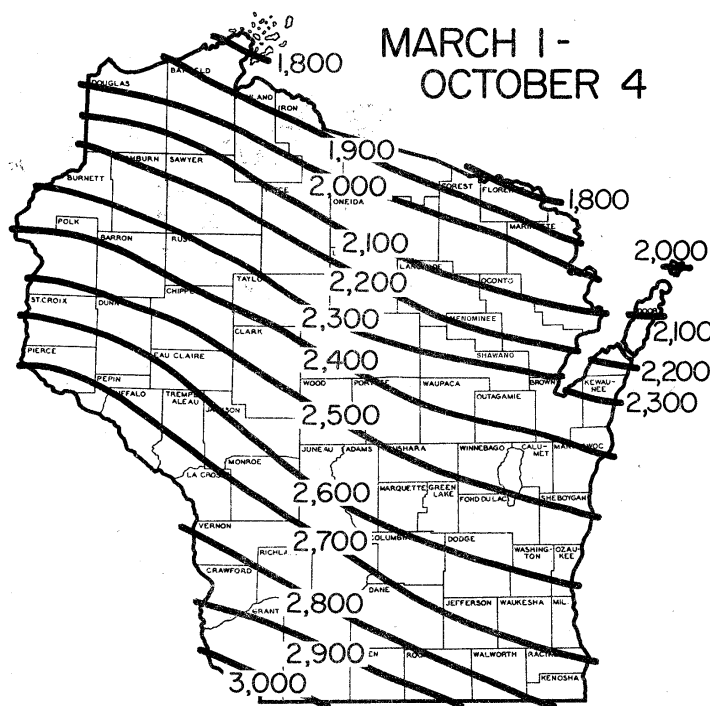
Alerts

Emerald ash borer- Emerald ash borer (EAB), the exotic beetle that is killing ash trees in southeastern Michigan, has been found in nursery stock at a nursery in Maryland. The nursery stock was originally from Michigan. Adults emerged this spring and larvae have been found in the trees. Most of these trees have been destroyed. Twenty-seven trees had already been sold and planted and are being monitored closely for signs of the beetle. (DNR)

Asian Longhorned Beetle in Canada: An Asian Longhorned Beetle *Anoplophora glabripennis*, (ALB), was discovered in Woodbridge, Ontario on September 4, 2003, by a member of the public. The sample was collected by the Canadian Food Inspection Agency (CFIA) and positively identified by the CFIA's Centre of Plant Quarantine Pests on September 8, 2003.

CFIA staff surveyed the area where the beetle was found and discovered trees that had been attacked by the ALB. This is the first find of ALB infesting trees in Canada. The beetle is native to Asia and was likely introduced into Canada through wood packaging used in shipping.

ALB in France: Earlier this year, the National Laboratory of Plant Protection in Montpellier, France confirmed that a beetle found in a schoolyard in Gien, France was an Asian longhorned beetle. Subsequent inspections surrounding the initial urban infestation site by the Forest Health Department revealed 22 infested maple, chestnut, and willow trees. A survey was conducted within a one kilometer radius of the initial infestation site to find and destroy other potentially infested trees. (North American Plant Protection Organization,



Historical Average Growing Degree-Days
Accumulated Since March 1.
(Wisconsin Agricultural Statistics Service)

Corn

European Corn Borer – Hurried by an early silage harvest, DATCP's pest survey team wrapped up their annual European corn borer fall abundance survey this week, slightly ahead of schedule. Since sampling began in early September, staff have worked at an accelerated pace to get to all of the sites while there was still corn acreage left to examine. The European corn borer survey documents the average number of corn borer larvae per plant at two hundred and eighteen survey sites across the state. It has been conducted each fall, at approximately the same sites, since the mid-1940s.

The survey protocol is relatively simple. At each site the surveyor walks into the field at least fifty paces beyond the edge row and counts off twenty-five consecutive plants. He or she examines each of the twenty-five stalks for signs of infestation, such as leaf feeding injury, entrance or exit holes, and/or frass exuding from the holes. All plants infested with European corn borer larvae are counted and recorded. Next, two of the infested plants are dissected and the number of corn borer larvae present inside those two stalks are counted. The average number of larvae per infested plant is multiplied by the number of infested plants out of the twenty-five examined, to give us the average number of corn borers per plant at each field. A population exceeding 0.60 larvae per plant is generally considered high.

This year's survey documented a statewide average of 0.30 corn borer larvae per plant. This compares to 0.66 per plant in 2002, and a ten-year average of 0.54 borers per plant. Figure 1 shows the average numbers of European corn borers per plant for the nine agricultural statistics districts sampled from 1994-2003, and the ten-year statewide average. A glance at the district data reveals that densities of European corn borers were substantially lower this fall compared to last year. In most districts the average number of borers per plant declined by more than 50%. The largest decreases in the

average number of European corn borers per plant from 2002 to 2003 occurred in the Central (1.21 to 0.44 borer/plant), West Central (0.71 to 0.16 borers/plant) and Northeast districts (0.75 to 0.23), though all districts showed some amount of decline. The highest densities of larvae were detected in south central district (0.52 borers per plant), but even 0.52 borer per plant is not considered to be particularly high.

On the other hand, a review of the data suggests there were some scattered hotspots, particularly at sites in Marquette, Green Lake, Columbia and Fond du Lac Cos. All districts had a few sites with high densities (>0.60 borers per plant). Specifically, sixteen percent of the fields included in the survey had average densities at or above 0.60 borers per plant, while only seven percent of the fields surveyed had densities exceeding 1.0 borers per plant. A summary map showing the average densities for each site will be available in the November 28 issue of the Wisconsin Pest Bulletin.

At this point it is difficult to speculate as to why densities are substantially lower this fall, but it's likely that the August drought had something to do with it. Extremely dry weather during the period when the second flight of corn borer moths were laying eggs may have led to egg masses flaking off from corn leaves before larvae had hatched; corn borer egg masses are delicate and very susceptible to desiccation. Also, newly-hatched, second-generation larvae were highly vulnerable to the heat and lack of moisture, and some may have dehydrated from hot weather before they could crawl into the whorl. Larvae can also be killed by several diseases, such as *Beauveria bassiana*, which causes a white fungal growth on the dead larvae, or *Nosema pyrausta*. It is not clear whether it was the drought or these other factors that had the largest effect. Either way, a statewide average of 0.30 corn borers per plant suggest can expect a relatively light first flight of moths next spring.

Crop Yields - A crop insurance agent stationed in the central part of the state reported the following from approximately 40 Marathon and Clark Cos. farms he

District	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	10 Yr Ave
NW	0.20	0.10	0.32	0.03	0.02	0.15	0.24	0.33	0.44	0.20	0.20
NC	0.08	0.17	0.41	0.26	0.01	0.03	0.04	0.05	0.26	0.14	0.15
NE	0.10	0.53	0.47	0.18	0.01	0.18	0.03	0.07	0.75	0.23	0.26
WC	0.45	1.21	0.80	0.15	0.02	0.30	0.31	0.67	0.71	0.16	0.48
C	0.92	1.23	1.02	0.09	0.02	0.30	0.41	0.48	1.21	0.44	0.61
EC	0.28	2.49	0.65	0.26	0.03	0.25	0.19	0.33	0.44	0.22	0.51
SW	1.10	6.31	0.51	0.39	0.17	0.57	0.39	0.87	0.65	0.35	1.13
SC	1.01	2.65	0.83	0.35	0.10	0.61	0.33	0.48	0.86	0.52	0.77
SE	1.07	3.08	0.79	0.35	0.10	0.31	0.16	0.36	0.61	0.17	0.70
State Ave	0.58	1.97	0.64	0.23	0.05	0.30	0.24	0.40	0.66	0.30	0.54

Figure 1. European corn borer fall survey summary 1994-2003 (by district). Average number of borers per plant

visited in September to assess yields: Corn yields were in 40-70 bu range with low test weights. Soybeans were in the 10-25 bu range with very low test weights. Between winterkill and drought, forage is in short supply. Corn earworms returned with the rain in mid-September, but there were fewer than in 2002. Much more damage was caused by wildlife, primarily deer, but turkeys and cranes as well.

Stewart's Wilt of corn - Results from the annual corn seed production field survey found one corn field in Dane County with Stewart's wilt last month, out of 73 inbred fields and breeding nurseries visited throughout the state. In 2000, the disease was found in Wisconsin for the first time since the 1950s. It was widespread in 2001, then not found at all in the state in 2002. The bacteria responsible for the disease overwinters in the corn flea beetle. It is presumed that mezoclimate conditions in Dane County allowed overwintering of the beetle vector.

Potatoes

Potato rot nematode- This elusive pest was once again identified in a seed potato field in Langlade Co. Identification was made cooperatively by the DATCP Plant Industry Lab and UW-Madison. Growers may not sell seed potatoes from potato rot nematode infested fields until they have fumigated and the field has been free from nematodes for three successive years. Potatoes may still be used for table stock, provided they pass quality inspections.

Forest, Shade Trees, Ornamentals and Turf

Butternut canker research- Butternut (*Juglans cinerea*) was once widespread in the northeast United States. In the last 40 years, cankers caused by an introduced fungus have killed 80% of the butternut trees in the U.S. Butternut canker spreads rapidly, is fatal, and affects all sizes and ages of trees. Elliptical, sunken cankers first form in the upper crown and then develop on the stem and buttress roots, eventually girdling the tree. Some trees have survived this epidemic because they are isolated and have escaped infection. Other trees may be resistant to the disease.

Researchers from the USDA Forest Service are interested in studying living, healthy trees to develop resistant strains and reintroduce this species. If you know of butternut trees that are living and healthy, please contact the researchers below and tell them where the trees are located, what condition they are in, and how to contact you. Contact Dr. Keith Woeste, USDA Forest Service, 765-496-6808, <http://www.fnr.purdue.edu/Htirc/woeste.html>, or Dr. Michael Ostry, North Central Research Station, 651-649-

5113, mostry@fs.fed.us. See http://www.na.fs.fed.us/spfo/pubs/howtos/ht_but/ht_but.htm for more information on butternut canker. (information from The Wisconsin Arborist, Vol. 22, No. 5)

Pine tortoise scale- This pest was widespread in Scotch pine Christmas tree fields in Jackson Co. Growers usually notice sooty mold first. This fungus grows on the honeydew excreted by the feeding scales, and looks like coal dust on the needles and twigs. Closer evidence reveals small, brown, helmet-shaped scale insects permanently attached to the twig. Generally, younger trees and lower branches are more heavily infested. Scales extract nutrients from plant tissue and can cause needle yellowing, stunting, and death.

Monitor trees by looking for the tell-tale sooty mold. Cut and burn heavily infested trees before mid-June, when the crawlers (immature scales) emerge and crawl to find new areas to feed. Growers may also treat with dormant oil in winter before bud break. Trees must be completely coated (including interiors) for dormant oil to be effective. If the infestation is widespread and dormant oil hasn't been successful, growers may treat with a registered insecticide between mid-June and mid-July to catch crawlers when they are vulnerable.

Poplar borer - Larvae were found feeding under the bark of quaking aspen in Jackson Co. The trees were declining and were in an open grown understocked stand. The poplar borer prefers these types of stands. Small pitch spots were present on the trunk of the trees and is an indication of borer activity. (DNR).

Postoak locust - High numbers of these grasshoppers are present and defoliating oaks in the west central region of the state. These grasshoppers primarily feed on oak leaves, but can also feed on conifers. (DNR).

Spruce gall midge (*Mayetiola piceae*)- This midge was found causing damage on spruce in northern Wisconsin Christmas trees again this year. Spruce gall midge damage is easily confused with **spruce gall adelgid** damage. Spruce gall midge damage includes swelling of the twig to twice its normal width. Individual galls are small, round, and often light-colored. Damage may stretch along a twig for several inches. Shoots with galls tend to drop their needles, and may twist or droop.

Repeated attacks from this tiny fly-like insect can kill individual shoots and in rare cases can be severe; however, usually the midge's natural enemy, a tiny parasitic wasp, keeps populations in check. Using chemical controls is not generally advised as that also removes natural biological controls.

Zimmerman pine moth- Evidence of this pest was found in high numbers in Scotch pine Christmas tree

fields in Jackson Co. and in light to moderate amounts in other counties in the state. Zimmerman pine moth larvae overwinter in bark and tunnel into branches or trunks in spring. Adults emerge in mid- to late summer, then the females lay eggs. Larvae overwinter in silken webs called hibernacula. Yellow to pink pitch masses form at the larval tunnel entrance, often with frass and boring tunnels present. Branches and stems can break when weakened by repeated boring damage.

Monitor your trees by inspecting main stems, branch unions, and branches for pitch masses. Also look for dead branches or dead tops. Larvae frequently tunnel into galls formed by eastern or western gall rust on Scotch pine. Prune out branches with pitch masses before late summer. If this pest becomes an economic problem, treat with a registered pesticide, being sure to drench the stem and branch bark, between early May to early June when the larvae are emerging.

Weir's cushion rust of spruce (*Chrysomyxa weirii*)

This fungal disease has been identified on spruce throughout northern Wisconsin nurseries and Christmas tree fields this summer and fall. Yellow spots or bands on infected first year needles are evident in summer or fall. The following spring, small "cushions" or pustules form on these infected needles. Needles eventually turn brown and fall as the disease progresses. Heavily infected trees may be unsaleable due to loss of needles. This pest is native to forests in the western U.S., but in the last 10 years it was reported in Vermont, New York, and Pennsylvania, and in 2002 it was found in Wisconsin.

Fungicides containing chlorothalonil are effective in treating Weir's cushion rust. Treat in spring when 10% of the buds have broken, and twice more at seven to ten day intervals. Growers should not sell nursery stock infected with Weir's cushion rust. Since the fungus will not continue to live on dead needles, growers may move cut Christmas trees.

State/Federal Programs

Gypsy moth trapping program - Trappers are nearing the completion of trap takedown for this year. As of 9/24, trappers have taken down 23,018 traps (87%) and have caught 648,882 moths. All traps should be down by Friday October 3. All counties, except Pepin County, have recorded a moth catch this year. Traps are removed and put in bags for verification and disposal. Leadworkers look at and verify as many positive and negative traps as possible to make sure the number of moths caught are accurate. Trap catches for this year will help determine where Fall egg mass surveys are done and where possible treatments may be scheduled in 2004. We thank landowners for their cooperation on letting us

set traps on their property.

Fall egg mass surveyors will be trained in mid-October and will have four weeks to complete their surveys. Survey crews are made up of four people and each one will be wearing an orange vest and carry a picture I.D.. Egg mass surveys will be conducted mainly in the north central, northwest and southern parts of the state. The surveys are done at sites with the highest moth catches and will be completed by November 14. Again, we ask for the cooperation of landowners in allowing egg mass surveyors on their property to do the surveys. Surveyors are trained to ask for permission before going on private property or they will leave a "Notice of Egg Mass Survey" at the house.

For more information on gypsy moth, please call our hotline at 1-800-642-MOTH.

Odds -n- Ends

Multicolored Asian ladybeetles- These introduced ladybeetles will continue to congregate in and around your houses as the weather cools down. Once the cool weather hits they begin looking for a place to overwinter. If you plan to do preventative measures to keep ladybeetles out of your homes this fall the preventative measures must be done by the second week of October. After that time the insects are already in your house, or under the siding, or in the walls. UW Extension has an informational flyer about what can be done to prevent ladybeetles from entering your house, including spraying the outside of your house. Check it out at <http://www.uwex.edu/ces/wihort/gardenfacts/X1050.pdf> (DNR)

Calendar of Events

Good websites to check:

<http://www.uwex.edu/ces/wihort/updates/Calendar.htm>

Bugs! IMAX® movie

September-December 18, 2003

Milwaukee Public Museum, Milwaukee, WI

Call (414) 319-4629

Also visit the bug exhibit called "Bugs Alive! Insects and Their Relatives," featuring 13 species of live arthropods.

Call (414) 278-2728, or visit: <http://www.mpm.edu>

Wisconsin Arborist Association Fall Conference

Tues., Oct. 28, 2003

Pewaukee, WI

Contact: Brian Cassity 262-886-5224

Wisconsin Turfgrass and Greenscape Expo,

Mon.-Wed., Jan. 5-7, 2004

Middleton, WI

Minnesota Nursery and Landscape Green Expo

Wed.-Fri., Jan. 7-9, 2004

Minneapolis, MN

2003 Wisconsin Fresh Fruit and Vegetable Conference

Jan. 6-8, 2004

Olympia Resort & Conference Center, Oconomowoc WI

<http://www.wiberries.org/program.htm>

Wisconsin Nursery Association Winter Workshop

Jan. 8-9, 2004

Brookfield, WI

Contact: WNA/WLF office at 414-529-4705

Wisconsin Turfgrass & Greenscape Expo

Jan. 8-9, 2004

Madison, WI

Contact: Audra Anderson at 608-845-6536

Mid-Am Horticultural Trade Show,

Wed.-Fri., Jan. 14-16, 2004

Chicago, IL

Gateway Technical College Wintergreen Conference

Fri., Jan. 23, 2004

School for Beginning Market Gardeners

Jan. 24-26, 2004

Contact: John Hendrickson at 608-265-3704

Wisconsin Nursery Association Winter Workshop

Wed., Jan. 28, 2004

Oconomowoc, WI

Wisconsin Arborist Association & DNR Urban Forestry Convention

Feb. 1-3, 2004

Green Bay, WI

Contact: Brian Cassity 262-886-5224

Wisconsin Landscape Federation Annual Conference

Sun.-Tues., Feb. 22-24, 2004

Kohler, WI

Web Site of the Week

<http://www1.uwex.edu/ces/flp/cfs/index.cfm>

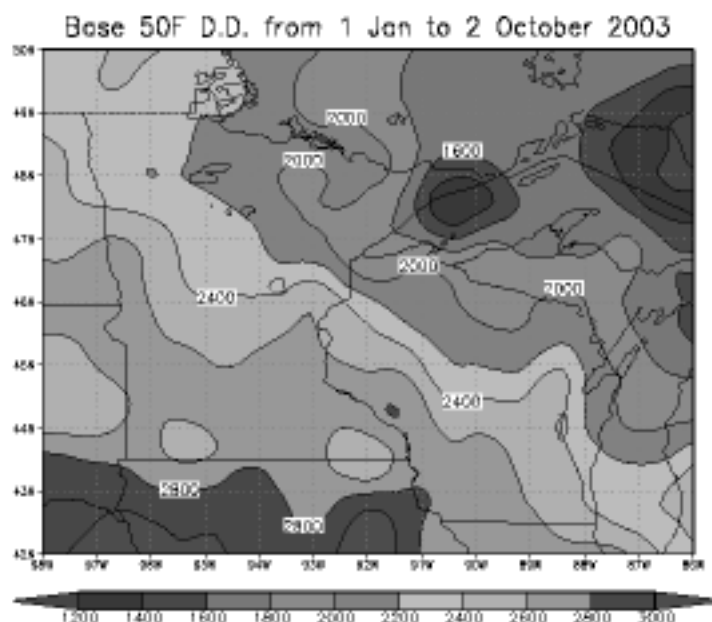
Wisconsin Food Security Project

Information from the other end of the food distribution system. Provides a good introduction to food security in Wisconsin—who goes to bed hungry, why, and what’s being done about it. Includes a database-driven profile system, which allows the user to access information on food stamp usage, farmer’s markets, economic status and other census data for every county in the state.

Quote of the Week

The sun, with all those planets revolving around it and dependent on it, can still ripen a bunch of grapes as if it had nothing else in the universe to do.

Galileo Galilei (1564-1642)



<http://www.soils.wisc.edu/wimnext/tree/arbor.html>